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ABSTRACT

The Hatch Act of 1887 established agricultural experiment stations to conduct agricultural research. It also called for the diffusion of agricultural information to the public. Land-grant university presidents and agricultural professors formalized the establishment of an association to improve communications and coordinate activities in regards to agricultural instruction and experimentation. The Association of American Agricultural Colleges and Experiment Stations parlayed the Hatch Act into an instrument of educational reform through the introduction of agriculture into public schools. In 1889, secondary agricultural education efforts were undertaken in Minnesota and Alabama. Around the turn of the century, the Office of Experiment Stations (OES) started an active campaign in different parts of the country to promote the introduction of agriculture into the secondary and elementary schools. OES served as a clearinghouse of information and resources for secondary instruction in agriculture and later was instrumental in the development of curriculum materials for secondary education, teacher training, and inservice teacher education. In 1915, OES was reorganized into the States Relations Service of the U.S. Department of Agriculture, but it continued to support agricultural education. By 1917 when the Smith-Hughes Act was passed, agricultural education in public schools was past the experimental stage. (YLB)

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TO TELL THE TRUTH: THE IMPACT OF THE HATCH ACT ON SECONDARY AGRICULTURAL EDUCATION

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TO TELL THE TRUTH:

THE IMPACT OF THE HATCH ACT ON SECONDARY AGRICULTURAL EDUCATION

Gary E. Moore

If a graduate student (or even first year agricultural education major) was asked which piece of federal legislation was responsible for starting agricultural education the reflex answer would be the "Smith-Hughes Act of 1917." If by some strange quirk, the student replied that it was the Hatch Act of 1887, he or she would probably be quickly "corrected."

Conventional wisdom has it that agricultural education was started by the Smith-Hughes Act in 1917. However, two years before the passage of the Smith-Hughes Act, over 90,000 students were enrolled in agriculture classes in 4,665 high schools.[1] If the Smith-Hughes Act really started secondary agricultural education how can agriculture in all these schools be explained? A careful examination of the Hatch Act and how it was implemented will reveal the answer.

To people who have some knowledge of federal legislation the Hatch Act of 1887 is thought of as the legislation that established agricultural experiment stations for the purpose of conducting agricultural research. This is correct; but only partially correct. The Hatch Act also called for the diffusion of agricultural information to the public. This aspect of the legislation was largely responsible for the establishment of agricultural education in the public schools.

Since 1987 is the 100th anniversary of the passage of the Hatch Act it would be appropriate to look back at the Act and examine its impact on the development of secondary agricultural education.

In The Beginning

The first sentence of the Hatch Act reads, "Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, (underline mine) AND (large type mine) to promote scientific

investigation and experiment respecting the principles and application of agricultural science, there shall be established under direction of the college or colleges or agricultural departments of colleges in each State and Territory . . . an agricultural experiment station."[2] The wording of this legislation indicated that experiment stations had two functions--disseminate practical agricultural information and conduct scientific investigations in agriculture.

Six months after the passage of the Hatch Act the land-grant university presidents and agricultural professors that had been meeting in a loosely structured fashion before the passage of the Act, met in Washington to formalize the establishment of an association to improve communications and coordinate activities in regards to agricultural instruction and experimentation. This group became known as the Association of American Agricultural Colleges and Experiment Stations (AAACES). Even though this group had been an informal group prior to 1887 they had been "a powerful lobby" and their evangelical fervor for "educational reform never flagged".[3] As a formal organization they parlayed the Hatch Act into an instrument of educational reform through the introduction of agriculture into the public schools.

The AAACES, with encouragement from Commissioner of Agriculture Colman, lobbied for the establishment of a central office in the U.S.D.A. to coordinate the work of the various stations and to serve as a medium of communication between the various experiment stations. As a result of their effort, the Office of Experiment Stations (OES) was established in October of 1888 as a special branch of the Department of Agriculture with an appointed Director as its head.[4]

In describing the mission of the newly created Office of Experiment Stations, Colman wrote in his 1888 report "The organization and functions of this office will naturally shape themselves to the needs of the enterprise as they arise."[5] The first two directors of the OES, Atwater and Harris, performed their duties in a perfunctory, business-like manner.[6] However, when Alfred C. True became director of the Office in 1893, the OES started efforts that Fuller described as "other good works. One of these was the promotion of the study of nature and agriculture in the country schools."[7] During True's tenure as Director of the Office of the Experiment stations the "diffusion of practical

information regarding agriculture" wording of the Hatch Act was, for all practical purposes, interpreted to mean the introduction of agriculture into schools in rural areas.

In True's 1893 report as Director of the OES he cited what France, Belgium and other countries were doing in regards to agricultural education. He concluded that in America "the farm boy or girl in the rural high school should be taught. . . the theory and practices of agriculture." This would result in "more contented and prosperous rural communities."[8] At the time True wrote this, some work had been started in America in regards to teaching agriculture at the secondary level. The work that had been started was closely tied to the Hatch Act.

Early Agricultural Education

In 1889, after widespread dissatisfaction with the college level teaching of agriculture at the University of Minnesota, a school of less than college grade was established on the grounds of the agricultural experiment station. Agriculture was to be taught on a practical and scientific basis. The school faculty of nine included five from the experiment station. Students were involved in the work of the experiment station. The school was successful. True noted "This school and the experiment station were so successful that the legislature from time to time appropriated generously for buildings, equipment, and current expenses. For a considerable period the schools of agriculture and dairy overshadowed the collegiate work."[9] This secondary agriculture school was inexorably connected with the experiment station.

Alabama's plan for secondary agricultural education differed from the Minnesota model. Secondary agricultural schools and branch agricultural experiment stations were established in Alabama in 1889. Kerr reported the reason the schools and branch experiment stations were combined was "in an apparent attempt to finance them [the high schools] out of federal Hatch appropriations."[10] Instruction in practical and scientific agriculture was offered at nine schools; one in each congressional district. The experiment station work carried on at each school was under the auspices of the Alabama Polytechnic Institute. Governor Comer spoke highly of the agricultural

schools and accompanying experiment stations and urged the legislature to increase appropriations for each school. The legislature responded by appropriating $4,500 to each school with the provision that $750 be spent on experiments. The experimental work carried on in these schools was simple and consisted primarily of variety and fertilizer tests, crop rotation, and cultivation methods.[11] In The Historical Development of the Congressional District Secondary Agricultural Schools in Alabama, Thompson indicated that a major factor in the development of these schools was the USDA.[12]

Director True was aware of the secondary agricultural education efforts in Minnesota and Alabama. In the Report of the Secretary of Agriculture for 1895 True, referring specifically to the secondary agricultural school in Minnesota, indicated it was a great success and stated "When the people realize more clearly the desirability of separating elementary and higher courses in agriculture, as in other subjects, they will undoubtedly provide means for the establishment of lower schools in which agriculture shall be taught."[13]

In his 1897 report, True justified his actions in promoting agricultural education. After describing the current activities in various states in regards to secondary agricultural education and discussing a bulletin he had published about agricultural education in Belgium, True stated "It is believed that it is clearly within the province of this Department, under the organic act, by which it was established, to exert itself actively in the promotion of those enterprises which tend to promote the general welfare of the farmer . . ."[14]

Most of True's writings about agricultural education prior to 1897 were for government and college officials. They were not reaching the farmer. Starting in 1897 True started reaching out to the farmer. In an article in the Yearbook of Agriculture for 1897 True described the agricultural schools in Minnesota and Alabama and then advocated the establishment of courses in agriculture in schools near the farmers' home. True urged the farmers to take an active role in the schools and let the school leaders know what the "real" needs of the farmers were.[15] Nearly every issue of the Yearbook of Agriculture from 1897 until the passage of the Smith-Hughes Act contained an article about the need for, development of, or progress in agricultural education in the public schools.

The Office of Experiment Stations Picks up the Pace

The Office of Experiment Stations started an active campaign in different parts of the country to promote the introduction of agriculture into the secondary and elementary schools around the turn of the century. Prior to this time their main efforts were verbal. In 1901 True wrote "The time seems favorable . . . for the Department to take a more active part in encouraging the introduction of nature study and elementary agriculture into the curricula of rural schools."[16]

In 1901, Dick Crosby, was added to the staff of the Office of Experiment Stations as a special assistant to the Director in work related to agricultural education. Crosby and True vigorously promoted the teaching of agriculture in the public schools.[17]

Both Crosby and True were involved with the activities of the Association of American Agricultural Colleges and Experiment Stations. At the AAACES meeting in 1895 a standing committee on methods of teaching agriculture had been established. The committee prepared annual reports on various topics of concern. The first six reports were concerned with collegiate level education in agriculture. The seventh report, published in 1902, showed how secondary courses in agriculture could be incorporated into existing high school courses. In the report it is stated, "Agriculture has thus far been almost entirely neglected in the high school programmes (sic), and it is high time that the friends of agricultural education should make a systematic effort to have the claims of this fundamental industry acknowledged and satisfied in the curricula of the public schools."[18] True was a member of the committee that made the seventh report. There were several reasons for the recommendation. One was because agricultural practices needed to be improved and education was a means of bringing about improvement. Additionally, the typical curriculum in rural schools was not relevant to the needs of the students and many students were dropping out. A third reason was more selfish. Many colleges were teaching what amount to "remedial agriculture." If the high schools could teach agriculture, then the colleges could teach agriculture at a more advanced level. The ninth report in 1904 was devoted to the teaching of agriculture in the rural common schools.[19]

With the addition of Crosby to the staff and the awakening demands for a more relevant education from progressives, agricultural education in the public schools started to become a reality. In Commissioner True's 1905 report, four pages were devoted to elementary and secondary agriculture. True started this section of his report by writing, "This past year has been one of great progress in agricultural education." After describing many of the developments in agricultural education, True observed that "the Office is now generally and favorably recognized as the agency of this Department for the promotion of agricultural education." True then detailed how overburdened and under funded his office was in regards to the advancement of secondary agricultural education, detailed what could be done with additional resources, and made a plea for additional funds.[20]

The AAACES supported True by passing a resolution at their annual meeting in 1905. The resolution stated "Resolved, that this association recognizes the great value of the work of the Office of Experiment Stations in promoting the cause of agricultural education in the United States, and heartily endorses the action of the Secretary of Agriculture in encouraging and aiding the efforts of the Office in this direction."[21]

In September of 1905 a department of agricultural education was established in the Experiment Station Record. The Experiment Station Record was a compilation of summaries of the work done at all the experiment stations in the various states and territories. The Record was a major communication channel for workers at the experiment stations. Reports on agricultural education were published here so that workers in the various stations could stay informed of developments in the field.[22]

A standing committee on instruction in agriculture and mechanical arts of secondary grade was established by the AAACES in the fall of 1905. Director True was the chairman of the committee and Dick Crosby was the secretary. One of the first goals of this committee was to get the National Education Association (NEA) to recognize the need for agricultural education in the secondary schools.[23] At the November 1905 AAACES meeting Kenyon Butterfield introduced a resolution that "our executive committee be hereby instructed to take such steps as they may consider necessary in an endeavor to secure the consent of the National Educational Association to add to its list of special

departments a department or departments on rural and agricultural education." In discussing the resolution Butterfield acknowledged that the NEA had been discussing the problems of rural schools but that the NEA "has not yet recognized agricultural education in a sufficient degree."[24] The NEA was dominated by educators who did not view vocational education very favorably. There was considerable debate nationally over educational reform, especially the need for vocational education, including agricultural education, in the public schools. Many of the traditional educators were either opposed to this new type of education or were opposed to the proposed delivery system.[25]

Dick Crosby attended the NEA convention in Los Angeles in July of 1907. In addition to making a speech titled "The Work of the National Government in Extending Agricultural Education Through the Public Schools" to a special agricultural education conference held in conjunction with the NEA convention, Crosby presented a petition to the NEA Board of Trustees signed by 28 prominent educators and active NEA members asking for the establishment of a Department of Rural and Agricultural Education in the NEA. Permission was granted to start the new department.[26] This provided a platform within the NEA for Crosby, True and others to advance the cause of educational reform. In following years, True, Crosby and Willet Hays, Assistant Secretary of Agriculture and a strong advocate of school consolidation and agricultural education, made presentations at the NEA convention. The presentations centered on the need for agriculture in the public schools.[27]

A division of agricultural education was established in the Office of Experiment Stations in 1906. Dick Crosby was put in charge of the work. The division had several employees and was very active in promoting and supporting agricultural education through consultations, research, curriculum guides, and instructional materials. Crosby's assistant, C. H. Hansen, prepared a complete lantern-slide series dealing with the teaching of agriculture in public schools.[28]

Public School Agricultural Education Grows

The efforts of True and Crosby, along with the efforts of other government officials, agricultural leaders, farm groups, and others interested in educational reform, started bearing fruit

early in the 1900's. The pioneering efforts to provide secondary agricultural education in Minnesota and Alabama provided a springboard for the growth of secondary agricultural education in other states.

The Alabama District Schools served as the model for a number of other southern states in the establishment of secondary agricultural schools. Georgia in 1907 and Virginia in 1908 established agricultural schools in each congressional district. The Oklahoma agricultural schools established in 1908 were located in state supreme court judicial districts. Mississippi in 1908 and Arkansas in 1909 established agricultural schools using a district scheme.[29] The southern states tended to go with district agricultural schools modeled after Alabama. Many of the other states such as Nebraska, California, Colorado, Connecticut, Idaho, Kansas, Montana, North and South Dakota, and Washington followed the Minnesota model of having a secondary level school of agriculture attached to the state land-grant college.[30] Conover indicated that this arrangement gave the schools a "direct relationship with the Office of Experiment Stations."[31]

The states that were establishing public school instruction in agriculture in the 1906-1917 era were searching for instructional materials and curriculum guides. True reported that the Office of Experiment Stations served as "a clearing house of information and advice regarding the courses, personnel, equipment, illustrative material, and literature for secondary instruction in agriculture."[32] In Two Hundred Years of Agricultural Education in Georgia, Wheeler reported that Dick Crosby of the Office of Experiment Stations was "largely responsible for the curriculum development" in the eleven congressional district agricultural schools established in 1907 in Georgia.[33]

At the 1907 AAACES meeting True discussed the two curricula that had been prepared by the OES in agronomy. There had been some criticism that one of the curricula was too advanced for many of the rural schools. True indicated that this had been done on purpose because "There is a feeling among schoolmen that agriculture is not a proper subject for high school instruction, because it can not be put in form which will make it a stiff enough course for high school work as compared with courses in

the natural sciences and other subjects. An attempt is made in this bulletin to show that a good, solid, and substantial course in agriculture, suited to high schools, can be prepared."[34]

A resolution was offered at the 1907 meeting of the AAACES by E. R. Nichols of Kansas "That the Association of American Agricultural Colleges and Experiment Stations urges upon the Congress liberal appropriations to enlarge the work of the Office of Experiment Stations along the lines of investigations and publications in relation to methods of instruction in agriculture relating to the farm, to the farm home, and to rural interests generally."[35]

The Office of Experiment Stations had started investigations in this area in 1903 when the appropriations act for the Department of Agriculture had $5,000 specifically dedicated to investigate how farmers' institutes could be "more effective for the dissemination of results of . . . the agricultural experiment stations."[36] This item was amended in 1906 by adding the words "agricultural schools" after farmers' institutes.[37] By the 1912-1913 fiscal year the appropriations had grown to $15,760 for research on "farmer's institutes and agricultural schools"[38]

Director True was serious about the role of his office in developing agricultural education. In one single year, people in True's office traveled 38,000 miles and visited schools and attended educational gatherings in 28 different state in their quest to develop agricultural education. Lantern slides were "pedagogically arranged and sent out" to help teachers with "visual instruction." Other illustrative materials supplied to the schools included charts and photographs. Sometimes experimental courses were conducted by the Office and their results given to other schools. The OES even maintained a card index of practically all agricultural educators in the United States.

The OES cooperated with teacher training institutions in various states, and supplied them with classified lists of all departmental publications, lists of materials that might be utilized by teachers, and offered suggestions as to how teachers might use particular Farmers' Bulletins in their work. Similar work was performed in connection with inservice education of teachers; publications conforming to their special needs were sent to them.[39]

The Office of Experiment Stations issued numerous publications related to the teaching of agriculture. Many of the publications pertained to the teaching of technical subject matter and were based on the work of the experiment stations.[40] The findings of experiment station research quickly found its way to the public through the bulletins and circulars designed for the teachers of public school agriculture. A listing of the circulars printed by the OES between 1909 and 1913 provide a good example of the concern of the OES for agricultural education. The circulars included Normal School Instruction in Agriculture (1909), Free Publications of the Department of Agriculture Classified for The Use of Teachers (1910), How to Test Seed Corn in School (1910), Institutions in the United States Giving Instruction in Agriculture (1912, This was complete listing of each secondary school in the United States where agriculture was taught), A Secondary Course in Animal Production (1911), A Working Erosion Model for Schools (1912), and The Work of the Agricultural Colleges in Training Teachers of Agriculture for Secondary Schools (1913). It should be obvious from looking at the titles of the bulletins, the OES was concerned with all phases of secondary agricultural education.

In 1913 the agricultural education division of the Office of Experiment Stations initiated the plan of calling annual conferences of states supervisors and teacher educators in agricultural education in the North Atlantic, Southern, and Central Regions.[41] Conover reported that "At these and numerous other personal conferences the federal staff members would give the conferees the advantage of their knowledge of educational practices in various schools, and would suggest plans for making their studies productive of immediate results. . . home-project work was especially encouraged. These conferences were followed up through correspondence, personal advice, and materials for use in teaching."[42]

Even though secondary agricultural education was growing rapidly in the second decade of the twentieth century, True and Crosby did not slacken in their fervor or eloquence for the cause. An example of this is found in Crosby's article "Agriculture in Public High Schools" published in the 1912 Yearbook of Agriculture. The opening sentence was bold and to the point, "More than 2,000

public high schools in the United States are now teaching agriculture; 16 years ago there was not one." After describing the types and numbers of schools in which agriculture was taught, the status of state support, the curriculum, and the facilities, Crosby told why agricultural education was important.

> "Whenever the teaching of agriculture in high schools has been taken seriously, whenever suitable equipment and capable teachers have been provided, the schools and everyone connected with them have been benefited; the attendance has increased; the schoolwork has assumed a more businesslike air; as if it dealt with the realities of life, with real problems instead of imaginary ones; and the relationships between teachers, pupils, and parents have become closer and more sympathetic.
>
> "High schools in which agriculture is something more than a new textbook subject, in which it reaches out to the surrounding homes and farms for its problems and illustrative materials, soon acquire a hold and exert an influence upon the community such as other schools have never been able to get. The people come to know their school better and are loyal to it. They see it as educating their sons--not for some allurement in the distant future, but for life in the world to-day, in the home neighborhood, in another State, or wherever they go. Moreover, they feel that school is a school for everybody--of educational, social, and pecuniary benefit to all. . . Instead of trying to education a select few for high professional positions, it is endeavoring to make a better people and a better land."[43]

By 1914 it was clear that agricultural education was firmly established in the public schools. The question on whether or not agricultural education should be taught was a moot point, the question was on how to organize it. In the 1914 Annual Report, True stated "The period of propaganda for the establishment of institutions and courses devoted to agricultural instruction has about come to an end. The main problems now relate to the effective organization of this work and the supplying of up-to-date subject matter and illustrative material in proper form for use in the schools."[44] This statement, by the Director of the Office of Experiment Stations, reflected the culmination of 25

years of commitment to the "dissemination of information" provision of the Hatch act. Agricultural education, for all practical purposes, had been established.

In 1915 the Office of Experiment Stations was reorganized into the States Relations Service (SRS) of the USDA.[45] Dr. True became the director of the SRS. One of the newly created divisions in the SRS was the Division of Agricultural Instruction. The support for agricultural education continued.

Between January of 1915 and December 1916 "Agricultural Education Monthly" was published every month except for the summer months by the State Relations Service. This publication provided suggestions on both the pedagogical and subject matter aspects of teaching agriculture.[46]

Agricultural Education Matures

By 1916 agricultural education in public schools in the United States was past the experimental stage. Agriculture was being taught in over 4,000 high schools to 90,000 students.[47] Many people erroneously believe agricultural education was started when the Smith-Hughes Act was passed in 1917. The Smith-Hughes Act provided federal funds directly to states to continue supporting the teaching of agriculture, established strict guidelines for operation of high school agriculture programs, and made the instruction more vocational. The Smith-Hughes Act did not start agricultural education; it merely extended the work the Office of Experiment Stations had already started. The Smith-Hughs Act should be considered as the official blessing of the Federal government to the agricultural education work started by the Office of Experiment Stations under the auspices of the Hatch Act.

The effort involved in establishing secondary agricultural education had not been easy. Not only had many educators been resistant to the movement, so had many farmers.[48] However, the persistent efforts of True and others won out. The early secondary agricultural schools in Minnesota and Alabama that were imbedded in the experiment stations provided the initial foundation for the development of secondary agricultural education. Additionally the Office of Experiment Stations, particularly the efforts of Director True, was a significant factor in the widespread teaching of

agriculture in public schools prior to 1917. Conover reported that "the Office of Experiment Stations . . . made the teaching of agriculture in the elementary and high schools an established feature in American education within a short period."[49] The Hatch Act had been a cornerstone in the progressive educational reform movement.

After the passage of the Smith-Hughes Act a Federal Board for Vocational Education was created. This board employed seven people to provide leadership and supervision for agricultural education.[50] A number of employees and some functions of the States Relations Service were transferred to the newly created board. However, the SRS continued to maintain its division of agricultural instruction and provided support to agricultural education. Numerous bulletins, primarily on technical agriculture subjects, were prepared by the SRS specifically for vocational agriculture instructors. The SRS also continued to provide illustrative materials, including lantern slides, film strips, and motion pictures to vocational agriculture teachers. Shinn reported, "The division of agricultural instruction of the United States Department of Agriculture was discontinued in 1929 after have made substantial contributions to the teaching of agriculture in both secondary and elementary schools of the country."[51]

Notes

1. U. S. Bureau of Education. Report of the Commissioner of Education 1916, Volume II. Washington: GPO, 1917, 453.

2. United States Statutes at Large, 1885-1887, 24:440.

3. Lawrence A. Cremin, The Transformation of the American School (New York: Alfred A. Knopf, 1961), 42.

4. For a discussion of the events leading to the passage of the Hatch Act and the reasons for the development of the AAACES and the organization's subsequent actions see Milton Conover, The Office of Experiment Stations Its history, activities and organization (Baltimore: The Johns Hopkins Press, 1924).; H. C. Knoblauch, E. M. Law, and W. P. Meyer, State Agricultural Experiment Stations a History of Research Policy and Procedure, U. S. Department of Agriculture, Miscellaneous Publication No. 904, (Washington: GPO, 1962), 29-65; Alan I. Marcus, Agricultural Science and the Quest for Legitimacy, (Ames: Iowa State University Press, 1985); Alfred C.True, A History of Agricultural Experimentation and Research in the United States, U. S. Department of Agriculture, Miscellaneous Publication No. 251, (Washington: GPO, 1937); Alfred C. True, Agricultural Experiment Stations in the United States, U.S. Department of Agriculture, Office of Experiment Stations, Circular No. 44, (Washington: GPO, 1900); and Norwood Kerr, The Legacy, (Columbia: Missouri Agricultural Experiment Station, 1987).

5. Report of the Commissioner of Agriculture. 1888. (Washington: GPO, 1889), 10.

6. Wilbur O. Atwater served as Director from 1888 to 1891. Abram W. Harris was director from 1891 to 1893. A review of their reports in the Annual Reports of the Commissioner of Agriculture indicate they were busy establishing the general framework of the office and taking care of the immediate concerns such as visiting stations, establishing a publication system, and establishing a library. For a discussion of some of the early activities of the Directors see Conover, The Office of Experiment Stations, 52-58.

7. Wayne Fuller, "Making Better Farmers: The Study of Agriculture in Midwestern Schools, 1900-1923," Agricultural History 60 (1986): 160.

8. Alfred C. True, in Report of the Secretary of Agriculture for 1893, (Washington: GPO, 1893), 451-452.

9. Alfred C. True, A History of Agricultural Education in the United States, 1785-1925. U.S. Department of Agriculture, Miscellaneous Publication No. 36, (Washington: GPO, 1929), 327.

10. Norwood A. Kerr, A History of the Alabama Agricultural Experiment Station 1883-1983. (Auburn: Alabama Agricultural Experiment Station, 1985), 21. the trustees of Auburn did not want to share the Hatch funds with the secondary schools. In 1896 Director True ruled that the Hatch Act provided for the establishment of one single experiment station in each state. However, if the state wanted to fund substations and have the substations governed by the same group that governed the main experiment station, this was permissible (see the Report of the Director of the Office of Experiment Stations, 1896, p. 141). The state of Alabama continued supporting the district schools and accompanying branch experiment stations.

11. C. J. Owens, Secondary Agricultural Education in Alabama. U. S. Department of Agriculture, Office of Experiment Stations, Bulletin 220, (Washington: GPO, 1909), 11.

12. J. L. Thompson, "The Historical Development of The Congressional District Secondary Agricultural Schools in Alabama," Ph.D. Diss., University of Alabama, 1965.

13. Alfred C. True, in Report of the Secretary of Agriculture for 1895, (Washington: GPO, 1895), 138.

14. Alfred C. True, Report of the Director of the Office of Experiment Stations for 1897, (Washington: GPO, 1897), 133.

15. Alfred C. True, "Popular Education for the Farmer in the United States," Yearbook of Agriculture, 1897, (Washington: GPO, 1898), 279-290.

16. Alfred C. True, Report of the Director of the Office of Experiment Stations for 1901, (Washington: GPO, 1901), 192.

17. Alfred C. True, A History of Agricultural Education in the United States, 329.

18. Office of Experiment Stations, Secondary courses in agriculture. Circular No. 49, United States Department of Agriculture, (Washington: GPO, 1902), 4.

19. Office of Experiment Stations, The Teaching of Agriculture in the Rural Common Schools, Circular No. 60, United States Department of Agriculture, (Washington: GPO, 1904).

20. Alfred C. True, Report of the Director of the Office of Experiment Stations, (Washington: GPO, 1905), 443-447.

21. Reported in Alfred C. True, Report of the Director of the Office of Experiment Stations, (Washington: GPO, 1906), 11.

22. C. H. Lane, "Our Leadership in Agricultural Education, Dr. A. C. True of the U.S.D.A.," Agricultural Education, (October, 1929). In True's annual reports for 1905, 1906, and 1907 he reiterated that fact that a Department of Agricultural Education had been established in the Experiment Station Record but was concerned that the Record was already too crowded and that some other type of publication would be more appropriate.

23. C. H. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade, 1904-1917" in Rufus W. Stimson and Frank H. Lathrop, History of Agricultural Education of Less Than College Grade in the United States, Federal Security Agency, Vocational Division Bulletin No. 217, (Washington, GPO, 1942), 571.

24. Office of Experiment Stations, Proceedings of the Nineteenth Annual Convention of the Association of American Agricultural Colleges and Experiment Stations, Bulletin No. 164, United States Department of Agriculture, (Washington: GPO, 1906), 47.

25. For examples see Wayne Fuller, The Old Country School: The Story of Rural Education in the Midwest (Chicago: The University of Chicago Press, 1982), 221-229; Lawrence A. Cremin, The Transformation of the American School 41-50; Edward A. Krug, The Shaping of the American High School (New York: Harper and Row, 1964), 217-248; and Arthur G. Wirth, "John Dewey's Philosophical Opposition to Smith-Hughes Type Vocational Education," Educational Theory, 22 (Winter, 1972), 69-77.

26. Journal of Proceedings and Addresses of the Forty-Fifth Annual Meeting, (Winona, Minnesota: National Education Association, 1907), 44-45, 1063-1069.

27. Willet M. Hayes, "Agriculture, Industries, and Home Economics in Our Public Schools," National Education Association, Journal of Proceedings and Addresses, 1908, 177-190; Alfred C. True, "What is Agriculture, Elementary, Secondary, and Collegiate?" National Education Association, Journal of Proceedings and Addresses, 1908, 1202-1207; Dick J. Crosby, "Special Agricultural High Schools," National Education Association, Journal of Proceedings and Addresses, 1909, 974-976; Dick J. Crosby, "The Place of the Agricultural High School in the System of Public Education,", National Education Association, Journal of Proceedings and Addresses, 1910, 1103-1107.

28. For a description of the activities of the division see C. H. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade, 1904-1917." 570-573 and Alfred C. True, Organization, Work, and Publications of the Agricultural Education Service, U.S. Department of Agriculture, Office of Experiment Stations, Circular No. 93, (Washington: GPO, 1910), 2.

29. For a state by state history of the development of secondary agricultural education see Rufus W. Stimson and Frank H. Lathrop, History of Agricultural Education of Less Than College Grade in the United States, Federal Security Agency, Vocational Division Bulletin No. 217, (Washington: GPO, 1942).

30. Alfred C. True, A History of Agricultural Education in the United States, 336.

31. Conover, The Office of Experiment Stations, 66.

32. Alfred C. True, A History of Agricultural Education in the United States, 330.

33. John T. Wheeler, Two Hundred Years of Agricultural Education in Georgia, (Danville, Illinois: Interstate Printers and Publishers, 1948), 53.

34. Office of Experiment Stations, Proceedings of the Twenty-first Annual Convention of the Association of American Agricultural Colleges and Experiment Stations, Bulletin No. 196, United States Department of Agriculture, (Washington: GPO, 1907), 38.

35. ibid., 37.

36. Alfred C. True, A History of Agricultural Education in the United States, 330.

37. United States Statutes at Large, 34: 669, 693

38. Alfred C. True, Federal Legislation, Regulations, and Rulings Affecting Agricultural Colleges and Experiment Stations. U.S. Department of Agriculture, Office of Experiment Stations, Circular 111, (Washington: GPO, 1912), 4.

39. Conover, The Office of Experiment Stations, 69-70.

40. George F. Ekstrom, "Historical Development of Agricultural Education in the United States Prior to 1917," Final Report prepared for the Office of Education, U. S. Dept. of Health, Education, and Welfare, April 1969, 44.

41. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade," 573.

42. Conover, The Office of Experiment Stations, 69.

43. Dick J. Crosby, "Agriculture in Public High Schools," in Yearbook of the Department of Agriculture 1912. (Washington: GPO, 1913), 471-481.

44. Alfred C. True in Annual Reports of the Department of Agriculture 1914, (Washington: GPO, 1914), 256.

45. U.S.Department of Agriculture, Century of Service the First 100 years of the United States Department of Agriculture, (Washington: GPO, 1963), 80-83.

46. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade," 572.

47. U. S. Bureau of Education. Report of the Commissioner of Education 1916, Volume II. Washington: GPO, 1917, 453.

48. See David B. Danbom, The Resisted Revolution, (Ames: The Iowa State University Press, 1979), 75-83 for a sample of the views of some of the rural population toward agriculture in the public schools. One can glean from the writings of True that he believed the farmers were either resistant to change or apathetic in regards to their schools and needed "agitation." For example see Alfred C. True, "Agriculture in Public Schools," Pennsylvania School Journal, (April, 1907), 448-449.

49. Conover, The Office of Experiment Stations, 67.

50. Layton S. Hawkins, Charles A. Prosser, and John C. Wright, Development of Vocational Education (Chicago: American Technical Society, 1951), 145.

51. Edwin H. Shinn, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade, 1917-1929" in Rufus W. Stimson and Frank H. Lathrop, History of Agricultural Education of Less Than College Grade in the United States, Federal Security Agency, Vocational Division Bulletin No. 217, (Washington, GPO, 1942), 574.